**To:** MICHIE Ryan [Michie.Ryan@deq.state.or.us]; ALTZ David [Waltz.David@deq.state.or.us]; N=Helen Rueda/OU=R10/O=USEPA/C=US@EPA;CN=Peter Beedlow/OU=COR/O=USEPA/C=US@EPA;CN=Jayne Carlin/OU=R10/O=USEPA/C=US@EPA[]; N=Peter Beedlow/OU=COR/O=USEPA/C=US@EPA;CN=Jayne Carlin/OU=R10/O=USEPA/C=US@EPA[]; N=Jayne Carlin/OU=R10/O=USEPA/C=US@EPA[]
**Cc:** FOSTER Eugene P [FOSTER.Eugene@deq.state.or.us]; N=David Croxton/OU=R10/O=USEPA/C=US@EPA[]
**From:** CN=David Powers/OU=R10/O=USEPA/C=US
**Sent:** Thur 4/21/2011 12:07:59 AM
**Subject:** Fw: Thinning on light and microclimate
http://ocid.nacse.org/nbii/density/pdfFiles/BLMDMSInterimReport2July2004.pdf
http://extension.oregonstate.edu/union/sites/default/files/forest/documents/SuggestedStockingLevelsforForestStandsinNEOregonandSEWashington.pdf
http://ocid.nacse.org/nbii/density/pdfFiles/BLMDMSInterimReport2July2004.pdf

Ryan & David - Leigh Woodruff, in EPA's ID Office, is working with the USDA Forest Service to explore ways to do GRAIP analysis more cost effectively. One potential approach would utilize high resolution LiDar data. Some great work with GRAIP and forest roads has already been completed in ID where there are extensive 303(d) listings based on sediment. There is some potential synergy between OR and ID efforts. Please let Leigh know whether/how he could access the existing and future LiDar data available in OR, preferably where there is an overlap with Forest Service lands. GRAIP light could have major utility for the mid-Coast TMDL, 4b efforts, and CZARA.

Peter - Is the Panther Creek LiDar data available? BLM may have the only federal lands in that watershed. Also, if EPA and DEQ were interested in some support for statistical analysis or design, who would be the best contact in EPA Corvallis? Phil Kaufmann?

thanks, Dave

p.s. Ryan and Gene - You may be interested in the riparian density studies at the http sites below. They are from OR...WA Ecology is considering them in discussions regarding riparian treatments for small private forest landowners.

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----- Forwarded by David Powers/R10/USEPA/US on 04/20/2011 04:45 PM -----

From: Leigh Woodruff/R10/USEPA/US
To: David Powers/R10/USEPA/US@EPA
Cc: Alan Henning/R10/USEPA/US@EPA, Peter Leinenbach/R10/USEPA/US@EPA, Teresa Kubo/R10/USEPA/US@EPA
Date: 04/20/2011 04:36 PM
Subject: Re: Fw: Thinning on light and microclimate

If you have more info on Lidar data collection per the $250K HQ funds, please let me know, esp, in the Siuslaw, where GRAIP was completed on the NF Siuslaw.

Its not clear that Lidar could be used to populate GRAIP, but high resolution Lidar has potential, and Tom Black is eager to test it out, if data are available in appropriate locations. I'll forward his message on where GRAIP data exist in the West.

Leigh

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From: David Powers/R10/USEPA/US
To: Leigh Woodruff/R10/USEPA/US@EPA
Cc: Peter Leinenbach/R10/USEPA/US@EPA, Alan Henning/R10/USEPA/US@EPA, Teresa Kubo/R10/USEPA/US@EPA
Date: 04/20/2011 05:14 PM
Subject: Fw: Thinning on light and microclimate

Leigh - here are http links to the other research on density management that WA Ecology is looking at. One http site is relevant to dry forest types. Key excerpt from the other draft study that is relevant to wetter forest types:
http://ocid.nacse.org/nbii/density/pdfFiles/BLMDMSInterimReport2July2004.pdf

Results
Commercial thinning substantially increased understory light when stand density was decreased to a basal area (BA) less than 120 ft2, or in other terms, below a relative density (RD) of 30. At higher residual densities light transmittance values were very similar to those of unthinned stands, being about 10 percent of light in the open. Increased thinning intensity to a moderate level of 80 tpa (ca. BA of 100 ft2 or RD 20) resulted in average light levels of 25 percent of open conditions. The heaviest thinning to 40 tpa (ca. BA of 60 ft2 or RD 15)
resulted in light levels averaging about 30 percent of that in the open; only a five percent increase for a doubling of thinning intensity over the 80 tpa treatment. Light conditions within 1-ac patch openings averaged about 57 percent of open conditions as a result of light interception by the surrounding trees. With respect to riparian buffers, increased light transmittance resulting from thinning adjacent stands was generally limited to 60 ft from the buffer-upland forest edge.

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----- Forwarded by David Powers/R10/USEPA/US on 04/20/2011 03:42 PM -----

From: Hicks, Mark (ECY)
Sent: Wednesday, October 27, 2010 10:25 AM
To: Jackson, Terry (DFW)
Subject: FW: Thinning on light and microclimate
Here is one that may be interesting in regards to thinning on the eastside.
http://extension.oregonstate.edu/union/sites/default/files/forest/documents/SuggestedStockingLevelsforForestStandsinNEOregonandSEWashington.pdf

From: Hicks, Mark (ECY)
Sent: Wednesday, October 27, 2010 9:55 AM

To: Jackson, Terry (DFW)
Subject: Thinning on light and microclimate
http://ocid.nacse.org/nbii/density/pdfFiles/BLMDMSInterimReport2July2004.pdf
Some results examining changes in light and microclimate with variable retention thinning in Oregon.
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